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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,480	04/21/2004	John Lair	64337.000002	7194

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EXAMINER
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CAI, WAYNE HUU

ART UNIT	PAPER NUMBER
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2681

DATE MAILED: 08/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/828,480	LAIR, JOHN	
	<b>Examiner</b>	<b>Art Unit</b>	
	Wayne Cai	2681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3-16 and 18-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-16 and 18-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 4/21/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The declarations under 37 CFR 1.132 filed 6/10/2005 are insufficient to overcome the rejection of claims 1, 3-16, and 18-42 based upon claim rejections – 35 USC § 103 as set forth in the last Office action because:

In a declaration, Mr. Anthony J. Sutera, the Chief Executive Officer of Radeum, Inc. states a business plan to research, develop, manufacture, market, and sell wireless headsets and related accessories for two-ways radios. Two prototype products were developed and demonstrated to the interest groups, specifically, the wireless headset product for two-way radios such as “FreeMotion 200”. Also, many different agencies, and parties were interested in testing, using, and purchasing the product.

However, the marketing, and demonstrating of the wireless headset to many agencies, and interest parties does not have a direct connection with the claimed invention.

In another declaration, Mr. D. Scott Miller, the Senior Vice President, Sales of Radeum, Inc. states his experiences in the field of communications. Mr. Scott also states the long-felt needs in the two-way radio communications industry for a wireless headset product to use with two-way radios.

However, claimed languages and the invention itself render the obviousness. Mr. Miller acknowledges on page 3-4, paragraph 9 that “many wireless headsets were available for communications devices such as cell phones. None of these existing wireless headset products, however, operated a push to talk switch or was compatible

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with or could be used with two-way radios.” Hence, this invention is clearly obvious to one skilled in the art to modify the wireless headset in such a way that it is also operable with the two-way radios.

Furthermore, the cited references showed that the only difference between the current invention and the submitted references were the “wired” and the “wireless” headset being operable with the two-way radio. Lenz discloses a “wired” headset is connected to the two-way radio comprising all the features and functions as claimed in the invention. Hahn on the other hand discloses a wireless headset system for use with the mobile phone is carried in the base station which is worn by the user. Clearly, the combination of the prior arts teach the claimed invention because of the motivation of transforming from “wired” to “wireless”. With the wireless headset, it is more convenient to user, and it also increases the mobility for the user. With the current technology, one skilled in the art could easily modify Lenz’s invention by making a wired headset to be a wireless headset in communication with the two-way radio.

Please refer to the rejection below for information.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 1, 3-5, 7-16, 26-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lenz (US – 5,101,504) in view of Hahn et al (hereinafter Hahn) (US – 6,230,029 B1).

**Regarding claim 1**, Lenz discloses a headset for communicating audio information to and from a half-duplex communications device, the headset comprising:

- a speaker assembly adapted to be worn on a user's head and to output audio information to the user (fig.1, elements 12 & 14);
- a microphone assembly adapted to receive audio information from the user (element 20);
- a switch (element 24)
- a transceiver adapted to transmit a signal representative of an engagement of the switch to the half-duplex communications device, the signal for causing the half-duplex communications device to enter a half-duplex transmission mode (column 2, lines 15-43).

Lenz, however, fails to disclose a headset is a wireless headset.

In a similar endeavor, Hahn discloses a modular wireless headset system for using with mobile phones and which incorporates a wireless headset.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a wireless headset instead of using a wired headset because the wired headset is entangled to users.

**Regarding claim 3**, Lenz and Hahn both disclose the wireless headset of claim 1 as described above. Lenz further discloses, wherein the switch is positioned on the microphone assembly (fig.1, element 24).

**Regarding claim 4**, Lenz and Hahn disclose the wireless headset of claim 1 as described above. Hahn further discloses a means for wirelessly transmitting at least a portion of the audio information from the user (fig.10, and its descriptions).

**Regarding claim 5**, Lenz and Hahn disclose the wireless headset of claim 4 as described above, except for at least a portion of the audio information from the user is transmitted as packetized digital information. However, it is well known in the art that the audio information from the user is transmitted as packetized digital information because the headset is the wireless headset.

**Regarding claims 7-10, and 12**, Lenz and Hahn disclose the wireless headset of claim 1 as described above. The wireless headset further comprising the earclip, headband, the speaker assembly includes an earbud speaker, the speaker assembly includes an ear insert for insertion into the user's ear canal wherein the ear insert comprises a conformable material is well known in the art since it is just a variation in design or style of the wireless headsets.

**Regarding claim 11**, Lenz and Hahn disclose the wireless headset of claim 9 as described above. Lenz further discloses the switch is positioned substantially coaxially with the ear insert (figure 1, element 24).

**Regarding claim 15**, Lenz and Hahn disclose the wireless headset of claim 1 as described above. Lenz further discloses, wherein the signal representative of an

engagement of the switch includes a signal transmitted during at least a portion of a period that the switch is engaged (abstract, column 2, lines 28-30).

**Regarding claim 16**, Lenz and Hahn disclose the wireless headset of claim 1 as described above. Lenz discloses a "push to talk" switch, but Lenz is silent on the signal representative of an engagement of the switch includes an absence of a signal during at least a portion of a period that the switch is engaged. However, it is obvious to one skill in the art that there is an absence of a signal during at least a portion of a period that the switch is engaged because the 2-way radio discloses by Lenz is a half-duplex communications device. Therefore, there must be a gap in signal between the transmit mode and receive mode.

**Regarding claim 42**, Lenz and Hahn disclose the wireless headset of claim 1 as described above. Hahn further discloses a body supporting the speaker assembly (fig.3 and its descriptions).

**Regarding claim 13**, Lenz and Hahn disclose the wireless headset of claim 1 as described above. Lenz further discloses wherein the switch is positioned on a body of the headset (column 2, lines 26-43, fig.1, element 24).

**Regarding claim 14**, Lenz and Hahn disclose the wireless headset of claim 1 as described above. Lenz further discloses, wherein the switch (element 24) is connected to a main body of the headset via a wire lead (fig.2 and its descriptions).

**Regarding claim 26**, Lenz discloses a system comprising:

- a half-duplex communications device (fig.1, element 23);

- wherein the headset is adapted to transmit a transmit mode signal for reception by the half-duplex communications device, the transmit mode signal indicating a provision of audio information by the headset for transmission by the half-duplex communications device (column 2, lines 15-43);

Lenz, however, fails to disclose:

- a headset wirelessly connected to the communications device.

In a similar endeavor, Hahn discloses a modular wireless headset system. Hahn further discloses wherein the headset wirelessly connected to the communication device (fig.10, elements 10, 56, and 54). The examiner notes that Hahn discloses the wireless headset connected to the cellular phones instead of the half-duplex device. However, by connecting the wireless headset to either device would be easily be done by one skilled in the art.

Also, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a wireless headset in the invention because the wired headset might become more entangled to users.

**Regarding claims 27**, Lenz and Hahn disclose the system of claim 26 as described above. Lenz further discloses, wherein the headset includes a switch operable by a user and wherein the transmit mode signal is transmitted when the switch is engaged by the user (column 2, lines 28-30, and fig.1, element 24).

**Regarding claim 28**, Lenz and Hahn disclose the system of claim 27 as described above. Lenz further discloses, wherein the transmit mode signal includes a



signal transmitted during at least a portion of a period that the switch is engaged (abstract, column 2, lines 28-30).

**Regarding claim 29**, Lenz and Hahn disclose the system of claim 27 as described above. Lenz discloses a "push to talk" switch, but Lenz is silent on the transmit mode signal includes an absence of a signal during at least a portion of a period that the switch is engaged. However, it is obvious to one skilled in the art that there is an absence of a signal during at least a portion of a period that the switch is engaged because the 2-way radio discloses by Lenz is a half-duplex communications device. Therefore, there must be a gap in signal between the transmit mode and receive mode.

**Regarding claim 30**, Lenz and Hahn disclose the system of claim 26 as described above. Hahn further discloses, wherein the headset is further adapted to wirelessly transmit the audio information for reception for communications device (fig. 10 and its descriptions).

**Regarding claim 31**, Lenz and Hahn disclose the system of claim 30 as described above. Hahn further discloses, wherein the communications device is adapted to wirelessly transmit audio information by reception by the headset (fig. 10).

**Regarding claim 32**, Lenz and Hahn disclose the system of claim 31 as described above, except for at least a portion of the audio information from the user is transmitted as packetized digital information. However, it is well known in the art that the audio information from the user is transmitted as packetized digital information because the headset is the wireless headset.

**Regarding claim 33**, Lenz and Hahn disclose the system of claim 26 as described above. Hahn also discloses the half-duplex communications device is selected from one of a group comprising: a two-way radio and a cellular phone (fig.10, element 56).

**Regarding claim 34**, Lenz discloses a system comprising:

- a half-duplex communications device (fig.1, element 23);
- a transmit switch assembly connected to the half-duplex communications device (element 24);
- wherein the headset is adapted transmit a transmit mode signal for reception by the half-duplex communications device, the transmit mode signal causing the half-duplex communications device to enter a half-duplex transmission mode (column 2, lines 15-43);
- wherein the half-duplex communications device is adapted to transmit in the half-duplex transmission mode audio information received from the headset based at least in part upon receipt of the transmit mode signal (column 2, lines 15-43).

Lenz, however, fails to disclose a headset is the wireless headset.

In a similar endeavor, Hahn discloses a modular wireless headset system. Hahn further discloses the headset wirelessly connected to the communication device (fig.10, elements 10 and 56).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the wireless headset in the invention because it is more convenient for users to wear the headset without entangling.

**Regarding claim 35**, Lenz and Hahn disclose the system of claim 34 as described above. Lenz further discloses, wherein the transmit switch assembly includes a switch operable by a user and wherein the transmit mode signal is transmitted when the switch is engaged by the user (column 2, lines 28-30).

**Regarding claim 36**, Lenz and Hahn disclose the wireless headset of claim 35 as described above. Lenz further discloses, wherein the signal representative of an engagement of the switch includes a signal transmitted during at least a portion of a period that the switch is engaged (abstract, column 2, lines 28-30).

**Regarding claim 37**, Lenz and Hahn disclose the wireless headset of claim 35 as described above. Lenz discloses a "push to talk" switch, but Lenz is silent on the signal representative of an engagement of the switch includes an absence of a signal during at least a portion of a period that the switch is engaged. However, it is obvious to one skill in the art that there is an absence of a signal during at least a portion of a period that the switch is engaged because the 2-way radio disclosed by Lenz is a half-duplex communications device. Therefore, there must be a gap in signal between the transmit mode and receive mode.

**Regarding claim 38**, Lenz and Hahn disclose the system of claim 34 as described above. Hahn further discloses, wherein the headset is further adapted to

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wirelessly transmit the audio information for reception for communications device (fig.10 and its descriptions).

**Regarding claim 39**, Lenz and Hahn disclose the system of claim 38 as described above. Hahn further discloses, wherein the communications device is adapted to wirelessly transmit audio information by reception by the headset (fig.10).

**Regarding claim 40**, Lenz and Hahn disclose the wireless headset of claim 38 as described above, except for at least a portion of the audio information from the user is transmitted as packetized digital information. However, it is well known in the art that the audio information from the user is transmitted as packetized digital information because the headset is the wireless headset.

**Regarding claim 41**, Lenz and Hahn disclose the system of claim 34 as described above. Hahn also discloses the half-duplex communications device is selected from one of a group comprising: a two-way radio and a cellular phone (fig.10, element 56).

4. Claims 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lenz in view of Hahn, and in further view of Chen (US 2002/0057746 A1).

**Regarding claim 6**, Lenz and Hahn both disclose the wireless headset of claim 5 as described above, except for the means for:

- an encoder adapted to convert an analog signal representative of the audio information from the user to a digital signal;

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- a processor operably connected to the encoder and the transceiver, the processor adapted to packetize the digital signal;
- wherein the transceiver is further adapted to wirelessly transmit the packetized digital signal;

In a similar endeavor, Chen discloses an apparatus for receiving and recovering frequency shift keyed symbols. Chen further discloses:

- a processor operably connected to the encoder and adapted to packetize the digital signal (paragraph 0019, and figure 4, item 302);
- a transceiver and antenna operably connected to the processor and adapted to wirelessly transmit the packetized digital signal (paragraph 0019, and figure 4, items 101, and 200).

It is well known in the art to include an encoder adapted to convert an analog signal representative of the audio information to a digital signal.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include an encoder, a processor, and a transceiver to process the digital signal from the wireless headset.

5. Claims 18-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hahn in view of Lenz.

**Regarding claim 18.** Hahn discloses an apparatus comprising:

- an interface for operable connection to a communications device (fig.10, element 54);

- a transceiver adapted to receive signals from a wireless headset (elements 92 & 94);

Hahn, however, fails to disclose:

- a processor connected to the transceiver for receiving a first transmit mode signal indicating engagement of a switch ;
- the processor connected to the interface for providing a second transmit mode signal to the half-duplex communications device to direct the half-duplex communications device to switch to a half-duplex transmit mode.

In a similar endeavor, Lenz discloses a shoulder activated headset. Lenz further discloses:

- the transceiver for receiving a first transmit mode signal indicating engagement of a switch and providing a second transmit mode signal to the half-duplex communications device to direct the half-duplex communications device to switch to a half-duplex transmit mode (abstract, and column 2, lines 15-43).

Even though Lenz does not disclose a processor connected to a transceiver, but it is well known in the art that the processor must be in place to process the information. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the processor in order for the apparatus to function properly.

**Regarding claim 19**, both Hahn and Lenz disclose the apparatus of claim 18 as described above. Hahn further discloses wherein the processor is adapted to receive

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audio information via the transceiver (fig.10, element 54 and its descriptions) and provide the audio information to communications device via the interface (elements 54 & 56). In addition, Lenz discloses the communications device is a half-duplex device instead of the cellular phone as described by Hahn. Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to easily replace one type of devices to another.

**Regarding claim 20**, Hahn and Lenz disclose the apparatus of claim 19 as described above. Hahn further discloses, wherein the audio information is transmitted from the wireless headset (fig.10, elements 54 and 10 and its descriptions).

**Regarding claim 21**, Hahn and Lenz disclose the apparatus of claim 18 as described above. Hahn discloses wherein the processor is adapted to receive audio information from the communications device (element 56) via the interface (element 54) and transmit at last a portion of the audio information via the transceiver (column 7, lines 34 – column 8, line 16).

**Regarding claim 22**, Hahn and Lenz disclose the apparatus of claim 18 as described above. Lenz further discloses, wherein the first transmit mode signal is received from the headset (column 2, lines 28-30).

**Regarding claim 23**, Hahn and Lenz disclose the apparatus of claim 18 as described above. Lenz further discloses, wherein the first transmit mode signal is received from a transmit switch assembly (column 2, lines 28-30).

**Regarding claims 24 and 25**, Hahn and Lenz both the apparatus of claim 18 as described above. Hahn further discloses, wherein the apparatus is separate from the

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communications device (element 54). Therefore, it would have been obvious to one skilled in the art to modify the design and make the apparatus to be integrated with the communications device.


### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wayne Cai whose telephone number is (571) 272-7798. The examiner can normally be reached on Monday-Friday; 9:00-6:00; alternating Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Wayne Cai  
Examiner  
Art Unit 2681

  
ERIKA A. GARY  
PRIMARY EXAMINER